INTELLECTUAL PROPERTY INDIA

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE & INDUSTRY
PATENT OFFICE, DELHI BRANCH,
W - 5, WEST PATEL NAGAR,
NEW DELHI - 110 008.

I, the undersigned, being an officer duly authorized in accordance with the provision of the Patent Act, 1970 hereby certify that annexed hereto is the true copy of the ***Application*** *and* ***Provisional Specification*** *filed in connection with Application for Patent No.* ***617/Del/02*** *dated* ***7th June 2002.***

Witness my hand this 11th day of September 2003.

(S.K. PANGASA)
Assistant Controller of Patents & Designs

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

0617-2

07 JUN 2002

Govt. of India Patent Office
New Delhi
5000/cash.
D/6/SL
Vide Entry No. 2482 in the

FORM 1

THE PATENTS ACT, 1970
(39 of 1970)

APPLICATION FOR GRANT OF A PATENT

(See Sections 7, 54 and 135 and rule 33A)

1 We, **RANBAXY LABORATORIES LIMITED**, a Company incorporated under the Companies Act, 1956, Corporate Office at 19, Nehru Place, New Delhi - 110 019, India

2. hereby declare –

(a) that we are in possession of an invention titled **"A METHOD OF MAKING CONTROLLED RELEASE TABLETS OF VENLAFAXINE"**

(b) that the Provisional Specification relating to this invention is filed with this application.

(c) that there is no lawful ground of objection to the grant of a patent to us.

3. Further declare that the inventors for the said invention are

a. PRATIK KUMAR
b. GIRISH KUMAR JAIN
c. ASHOK RAMPAL

of Ranbaxy Laboratories Limited, Plot No. 20, Sector-18, Udyog Vihar Industrial Area, Gurgaon – 122001 (Haryana), India, all Indian Nationals.

ORIGINAL

4. That we are the assignee or legal representatives of the true and first inventors.

5. That our address for service in India is as follows:

DR. B. VIJAYARAGHAVAN
Associate Director – Intellectual Property
Ranbaxy Laboratories Limited
Plot No.20, Sector – 18,
Udyog Vihar Industrial Area,
Gurgaon – 122001 (Haryana), INDIA.
Tel. No. (91-124) 6343126; 6342001 – 10; 8912501-10
Fax No. (91-124) 6342027

07 JUN 2002

FORM 2

The Patents Act, 1970
(39 of 1970)

07 JUN 2002

PROVISIONAL SPECIFICATION
(See Section 10)

A METHOD OF MAKING CONTROLLED RELEASE TABLETS OF VENLAFAXINE

ORIGINAL

RANBAXY LABORATORIES LIMITED
19, NEHRU PLACE, NEW DELHI - 110019
(A Company incorporated under the Companies Act, 1956)

The following specification particularly describes and ascertains the nature of this invention and the manner in which it is to be performed:

Hydroxypropylmethylcellulose coated with a mixture of ethyl cellulose and Hydroxypropylmethylcellulose. These spheroids are then dispensed in hard gelatin capsules.

The limitations of such a dosage form are that only limited amount of coated beads or pellets can be put into a capsule size that is convenient to swallow.

The present invention provides a method of making coated pellets of venlafaxine which can be compressed into a tablet, and provide a controlled rate of release of venlafaxine in the Gastrointestinal tract.

An advantage of the present invention is that the compressed tablet can also be administered in one half tablet or one half dose.

Another advantage of the present invention is that large amount of drug can be compressed into a tablet size which is easy to swallow.

The tablets prepared by the process of this invention maintain a constant blood level of venlafaxine over a prolonged period of time.

According to the present invention coated pellets comprise-

a) An inert core
b) Venlafaxine layer surrounding the inert core;
c) a polymer layer surrounding the drug layer; and
d) Optionally a layer of waxy material surrounding the polymer layer.

These coated pellets are then compressed to form tablets.

Both the polymer and the drug layers may further comprise diluents, fillers and other pharmaceutical additives.

EXAMPLE 1

Coated Pellets:

(i) Inert core	
Non pareil seeds	65 mg
(ii) Drug layer	
Venlafaxine hydrochloride	171 mg (equivalent to 150 mg of venlafaxine)
Magnesium stearate	15 mg
Colloidal silica	25 mg
Hydroxypropyl methylcellulose	15 mg
Water q.s.	
iii) Polymeric coating layer	
Ethyl cellulose	85 parts
Hydroxypropyl methylcellulose	15 parts
Triacetin 1% (of total polymers)	
iv) Wax coating layer	
Polyethylene glycol 6000	

PROCEDURE:

1. Venlafaxine is dissolved in water and colloidal silica, Magnesium stearate and Hydroxypropylmethylcellulose are added to it under stirring.
2. Non pareil seeds are loaded in Glatt and coated with drug dispersion of step 1.
3. Drug coated pellets of step 2 are coated with a mixture of Ethyl cellulose and Hydroxypropyl methylcellulose dissolved in Isopropyl alcohol and methylene chloride.
4. Coated pellets of step 3 are then coated with a solution of PEG 6000 in methylene chloride.

PROCEDURE:

1. Venlafaxine is dissolved in water and colloidal silica, Magnesium stearate and Hydroxypropylmethylcellulose are added to it under stirring.
2. Non pareil seeds are loaded in Glatt and coated with drug dispersion of step 1.
3. Drug coated pellets of step 2 are coated with a mixture of Ethyl cellulose and Hydroxypropyl methylcellulose dissolved in Iso-propyl alcohol and methylene chloride.
4. Coated pellets of step 3 are then coated with a solution of PEG 6000 in methylene chloride.

Compressed tablets:

Coated pellets	460 mg
silicified microcrystalline cellulose	288 mg
PEG 6000	70 mg
crospovidone	102mg
Magnesium stearate	6 mg
TOTAL weight	926 mg

Procedure: The coated pellets of the final step are mixed with other excipients and compressed to form tablets.

Dated this 7TH day of **June, 2002.**

For Ranbaxy Laboratories Limited

(Sushil Kumar Ratawari)
Company Secretary